

**REMARKS**

**Status of the Claims**

Claims 1-87 are pending in this application. Claims 1, 47, 79, 83, and 87 have been amended herein, and claim 46 has been cancelled. Support for these amendments is discussed below. No new matter has been added.

**Claim Objections**

The Examiner has objected to dependent claims 2 and 3 as failing to further limit the subject matter of a previous claim. Applicant would like to thank the Examiner for pointing out this clerical error. Claim 1 has been amended, rendering this objection moot. Support for this amendment, as well as the amendments to claims 79, 83, and 87, can be found, for example, in original claims 2 and 3. Claims 2 and 3 recite the compound "2,6-dimethoxy-3,5-diaminopyridine." Support can further be found, for example, in the as-filed specification on page 4, paragraph [013], stating that "[i]n one embodiment of the invention, the at least one oxidation dye of formula (I) is chosen from 2,6-dimethoxy-3,5-diaminopyridine."

**Rejections under 35 U.S.C. § 112, Second Paragraph**

The Examiner has rejected claims 45-47 under 35 U.S.C. § 112, second paragraph as indefinite. Specifically, the Examiner has rejected claims 46 and 47 as indefinite "because the claims recite the term 'simplex peroxidases'." *Id.* Claim 46 has been cancelled and claim 47 has been amended, rendering this objection moot.

The Examiner further alleges that "Claim 45 is indefinite because the claim recites the limitations 'NADH peroxidaes having NADH' and 'NADPH peroxidases

having NADPH'." Office Action at 2. According to the Examiner, "[i]t is unclear whether these terms are trade names or scientific names." *Id.* at 3.

Applicant respectfully disagrees with the Examiner's characterization of the terms NADH and NADPH. As one of ordinary skill in the art would readily realize, NADH and NADPH are commonly-used scientific terms in the art designating particular molecules. Specifically, NADH is reduced nicotinamide adenine dinucleotide, and NADPH is reduced nicotinamide adenine dinucleotide phosphate. These terms are familiar to anyone who has ever taken a basic class in biochemistry.

Furthermore, and as Applicant pointed out in the Amendment filed August 9, 2002, paragraph [062] of the specification discloses the reference Enzyme Nomenclature, Academic Press, Inc., 1984. This reference plainly defines NADPH and NADH peroxidases.

Therefore, for at least the foregoing reasons, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, second paragraph be withdrawn.

### **Rejections under 35 U.S.C. § 103**

The Examiner has made four rejections of the claims based on 35 U.S.C. § 103(a). First, claims 1, 2, 4-34, and 52-87 have been rejected over U.S. Patent No. 6,312,477 to de la Mettrie et al. ("de la Mettrie"). Second, claim 3 has been rejected over de la Mettrie in view of U.S. Patent No. 6,203,579 to Moeller et al. ("Moeller"). Third, claims 35-44 have been rejected over de la Mettrie in view of WO 98/40471 to Sorensen et al. ("Sorensen"), and finally, claims 45-51 have been rejected over de la Mettrie in view of U.S. Patent No. 6,309,426 to Dias et al. ("Dias"). Applicant maintains

for reasons of record and for the reasons set forth below that the Examiner has failed to establish a *prima facie* case of obviousness.

The Examiner alleges, as in previous Office Actions, that de la Mettrie teaches a hair dyeing composition comprising oxidation bases including 2,3-diamino-6-methoxypyridine and also comprising 2-electron oxidoreductases. He supports his contention that 2,3-diamino-6-methoxypyridine is disclosed by de la Mettrie by relying on the list disclosed at col. 7, l. 64 to col. 8, l. 9, citing and incorporating by reference several different compounds, including 2,3-diamino-6-methoxypyridine. He admits that de la Mettrie doesn't teach the combination of an oxidation dye having the formula (I) as recited in the present claims, such as 2,3-diamino-6-methoxypyridine, with 2-electron oxidoreductase enzymes as claimed. However, in the Examiner's view, it would have been obvious to use the presently claimed dye and enzyme because de la Mettrie teaches 2-electron oxidoreductases in a hair dyeing composition with other heterocyclic dyes and, according to the Examiner, "the nature of the oxidation base used in the dye composition is not a critical factor [citing de la Mettrie] and, thus, a person of ordinary skill in the art would expect such as dye composition to have similar properties to those claimed, in the absence of contrary [evidence]." Office Action, p. 5.

In order to establish a *prima facie* case, an Examiner must point to, among other things, a suggestion or motivation to modify the reference or to combine reference teachings. M.P.E.P. §2142. The passage in de la Mettrie at col. 7-8, however, does not "clearly and particularly" suggest modifying the reference by using the diaminopyridine compound, nor does the Examiner's statement that one of ordinary skill would expect similar properties from any heterocyclic oxidation dye. *In re Dembiczak*, 175 F.3d 994,

999 (Fed. Cir. 1999) (requiring that the reference's suggestion to modify be clear and particular). Moreover, the Examiner's showing is not by "substantial evidence," as required by *In re Zurko*, 258 F.3d 1378, 1384 (Fed. Cir. 2001). Instead, the 2,3-diamino-6-methoxypyridine compound is one of a long list of possible oxidation dye compounds, and one of ordinary skill in the art would have no motivation to select it, nor any necessary expectation of success upon its combination with the claimed 2-electron oxidoreductase.

In support of this assertion, Applicant submits herewith the Rule 1.132 Declaration of inventor Grégory Plos. In this declaration, Plos describes comparative tests, the results of which indicate that one of ordinary skill in the art would have had no motivation to pick the 2,3-diamino-6-methoxypyridine from the list disclosed in de la Mettrie. This is because, when compared to another representative compound in the same list, the 2,3-diamino-6-methoxypyridine compound exhibits superior intensity and selectivity of coloration.

More specifically, the composition according to the inventive example in the Declaration, composition 2 (comprising 2,3-diamino-6-methoxypyridine), produced a more intense color than the color obtained from 3,4-diaminopyridine, listed in de la Mettrie at col. 8, lines 3-9. The composition containing the 2,3-diamino-6-methoxypyridine also produced a less selective coloration on the hair. Thus, not all of the oxidation dye compounds in de la Mettrie are equivalent, and the Examiner has failed to establish that it would have been obvious for one of ordinary skill in the art at the time the invention was made to have selected the superior 2,3-diamino-6-methoxypyridine from the many other compounds in de la Mettrie's broad list of dyes.

Furthermore, the secondary references of Moeller, Sorensen, and Dias do not remedy this deficiency in de la Mettrie. As none of the cited references teach a pyridine compound falling within the presently claimed formula, it would be impossible for de la Mettrie in combination with any of Moeller, Sorensen, or Dias to teach all of the elements of the present invention, as required by M.P.E.P. §2142. Thus, Applicant respectfully requests the withdrawal of the obviousness rejections over de la Mettrie in view of Moeller, Sorensen, and Dias.

### **Conclusion**

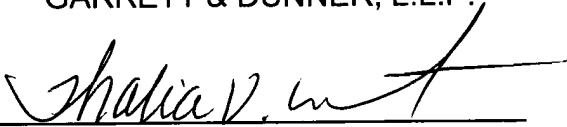
In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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